title. 연습문제 2-2 date.

#<-(a) $y = e^{2x} = e^u \quad (u = 2x)$

↳ $y' = \frac{dy}{dx} = \frac{d}{du}(e^u) \times \frac{du}{dx}$

↑ 연쇄법칙

$= e^u \times 2$

$= 2e^{2x}$ #

#<-(b) $y = x\ln x - x$

↳ $\frac{dy}{dx} = (x\ln x)' - (x)'$

$= \ln x + x \cdot \frac{1}{x} - 1 \quad = \ln x$ #

#<-(c) $y = e^x \ln x$

↳ $\frac{dy}{dx} = (e^x)' \ln x + e^x (\ln x)'$

$= e^x \ln x + e^x \cdot \frac{1}{x}$

$= e^x (\ln x + \frac{1}{x})$ #

#<-(d) $y = \frac{x}{\ln x}$

↳ $\frac{dy}{dx} = \frac{(x)' \ln x - x(\ln x)'}{(\ln x)^2}$

$= \frac{\ln x - x \times \frac{1}{x}}{(\ln x)^2}$

$= \frac{\ln x - 1}{(\ln x)^2}$ #

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